ORIGINAL

APS

A subsidiary of Pinnacle West Capital Corporation

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August 29, 2005

Ernest Johnson
Director, Utilities Division
Arizona Corporation Commission
1200 W. Washington
Phoenix, Arizona 85007

RE: DOCKET NO. E-01345A-95-0491
DECISION NO. 59601

Dear Mr. Johnson:

Pursuant to A.C.C. Decision No. 59601 and Arizona Public Service Company's Plan for Administration dated July 22, 1996, provided is the Semi-Annual report covering the period of January 1, 2005 through June 30, 2005. The DSM Programs report will now be filed separately in Docket Control in compliance with Arizona Public Service Rate Case (Decision No. 67744).

The report reflects the correlation between the System Benefit Charge and the Environmental Portfolio Surcharge for renewable projects as a result of the approval of both the ACC Settlement Agreement (Decision No. 61973) and the Environmental Portfolio Standard (Decision No. 63364).

If you should have any questions regarding the information contained herein, please call Angie Krainik at (602) 250-2611.

Sincerely,

Justin H. Thompson
Manager
Regulation, Policy & Analysis

JHT/AKK

Cc: Brian Bozzo, Manager, Compliance and Enforcement
Docket Control (Original, plus 13 copies)

Arizona Public Service Company
Renewable Resources Development Program Costs
Semi-Annual Report
January through June 2005

Programs	SBC Expenses	EPS Expenses	Revenues
New Solar Plant Construction	981,016	3,434,533	
Solar Plant Operation	-	-	
Solar Partners		32,066	142,318
Off-Grid Solar Services	1,628	-	82,536
Non-Solar Renewables		1,204,876	
New Technology Activity	1,820	80,639	
EPS kWh Purchases		1,857,709	
Administration		107,840	
Total	984,464	6,717,664	224,854

ARIZONA PUBLIC SERVICE COMPANY
RENEWABLE RESOURCES DEVELOPMENT PROGRAM
SEMI-ANNUAL REPORT FOR JANUARY THROUGH JUNE 2005

1. NEW SOLAR PLANT CONSTRUCTION

APS continues to install new solar generation capacity. These installations include a variety of types of photovoltaic (PV) technologies, and some building-integrated fixed systems, as well as larger PV-tracker and concentrator systems. APS is also now nearing completion of a new 1 MW solar-thermal electric generating plant.

Summary of the First Half of 2005

1) By the end of June 2005, APS had installed an accumulated solar electric capacity of 6,152 kW. This includes APS on-grid, off-grid, and customer-supported solar systems, some of which predate the EPS rule.

1.	Total Grid-Tied Systems	4,815 kW
2.	Total Off-Grid Systems	141 kW
3.	Total Customer Credit Purchase Systems	1,196 kW
4.	Total APS-supported solar	6,152 kW

2) Modules were installed and two additional systems at the Prescott Airport solar site were completed, bringing the total to 2,815 kWdc. By the end of the year, a total of 3571 kW should be in service at Prescott Airport.

3) The tracking system was completed for the Prescott Airport Single Axis Tilted Trackers, putting this system into full operation.

4) Construction is underway at the new Saguaro Solar Generating Station, a 1 MW solar trough plant north of Tucson. This will be the first solar trough electric generation system built since the last installation at Barstow by Luz about ten years ago.

5) The Yuma West Wetlands PV project is in construction. This system will consist of 24 APS Tilted Trackers totaling 86 kWdc. Site grading, compaction and fence had been completed, and all concrete foundations are in place. Assembly of the steel has started and the site will be ready for the public dedication in October 2005.

Plans for the Second Half of 2005

1. Completion and turn on of 28.8 kW of single-axis trackers at Prescott Airport.

2. Completion and turn on of the 24 Tilted Trackers at Yuma West Wetlands.

3. Continued construction of the 1 MW solar trough plant.

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2. SOLAR PLANT OPERATION

Continued performance of solar plants requires regular maintenance and response to outages of inverters and their control systems, PV modules, electrical equipment and metering, and tracker mechanisms and controls.

Summary of the First Half of 2005

1. All solar plants have been generally performing well. Inverters remain a maintenance issue, but are much improved as work with manufacturers continues.

2. The Xantrex PV30 upgrades to more current parts and software were completed this spring, inverter problems were greatly reduced this summer vs. 2004. APS was one of the very first to install these systems and has 38 in service.

3. The ten 15 kW inverters at Gilbert Nature Center were replaced this spring with a single 125 kW inverter. Inverter problems were greatly reduced this summer compared to those in 2004.

4. The Omnion inverters at Scottsdale Covered Parking were replaced this year. The system is now operating at full power with few problems.

5. Additional design problems have been found in some of the AES inverters at Prescott and other sites, which may affect the life of some of the components. Improvements are now being discussed with AES.

6. On the seven large Amonix systems at Prescott and at STAR, an improvement in the drive mechanism was made to increase accuracy and wind capacity. Some outages were taken for testing and modification.

7. APS now collects data from 80 solar plants around the state, and a few customer sites in other states. This performance data is being shared with researchers at Sandia Labs and the National Renewable Energy Lab, with publications being developed.

Plans for Second Half of 2005

1. The Flagstaff solar plant upgrade of inverters and trackers is scheduled for fall 2005. This work is to replace equipment which is failing and is no longer supported by the manufacturer, UPG that is now out of business.

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3. SOLAR PARTNERS

Solar Partners is the APS "Green Power" customer choice program. As Solar Partners, APS customers can choose to pay a small premium to have a portion of their energy needs generated by new solar power plants, and thereby support the continued development and use of solar energy. Other aspects of the program are to promote EPS credit purchases from customers that install either PV or solar water heating systems.

Summary of the First Half of 2005

1. As of June 13, 2005, there were over 5000 customers participating in the APS Solar Partners program. There were 5,030 Solar Partners representing 9,287 shares or 928 kW of solar generating capacity. There are 4,948 residential solar partners and 82 commercial solar partners purchasing an estimated 1,671,660 kWh per year of solar generated electricity.

2. Regular tours were held for Solar Partners and other interested individuals at our Solar Test and Research (STAR) Center in the spring. In addition, Solar Partners was promoted along with education about solar and APS activities in solar, through outreach, tours, trade shows, school meetings, and newsletters.

3. An open house of the APS STAR Center was held in the spring and was attended by several hundred Solar Partners, customers and interested individuals. Monthly tours continue to be given of the STAR Center.

Plans for Second Half of 2005

1. Solar Partners promotions will continue to all customers. A bill-stuffer Solar Partners promotion is anticipated in the second half of the year.

2. An annual newsletter will be sent out this fall.

3. Open Houses will be held at STAR for Solar Partners, and bill stuffers and public outreach will be used to promote Solar Partners to the public.

4. APS will exhibit and promote Solar Partners at community and public events throughout the state.

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4. OFF-GRID SOLAR SERVICES

APS installs and operates large solar-hybrid generating systems, i.e. greater than 15 kW, at remote sites to provide solar-electric service.

In addition, APS has provided 1-5 kW PV-battery systems as an off-grid service option to customers in remote locations that cannot be readily connected to a power line.

Summary of the First Half of 2005

1. Customer demands on the APS solar-hybrid system at the Gray Wolf Landfill has been far in excess of the original plan, causing high use of the backup diesel generator. An upgrade of the PV, inverter and batteries is underway for completion by late 2005. So far, the generator at Gray Wolf has been replaced, the inverter is being shipped to APS, and the batteries are on order.

2. Carol Spring Mountain PV hybrid plant has been running well since repair from the lightning event of late 2004. An expansion of the PV array is planned for later this year subject to pending Forest Service approval.

Plans for Second Half of 2005

1. Complete the Gray Wolf PV upgrade.

2. Complete the Carol Spring Mountain PV expansion, subject to Forest Service approval.

3. Continue maintenance support for all lease customers of remote solar systems, and support for existing large-hybrid customers.

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5. NON-SOLAR RENEWABLES

APS is investigating, installing and contracting for many other renewable energy resources in addition to solar. These include wind, landfill gas, bio-mass, wood waste, waste water, bio-gas, manure and geothermal projects.

Summary of First Half of 2005

1. The 70 kW Butterfield landfill micro-turbine technology demonstration project was terminated in the first half of 2005. Landfill operation changes, gas collection and operating issues resulted in the project partners' joint decision to shut the unit down and remove it from the landfill site.

2. The 3 MW biomass project in Eagar with Western Renewable Energy experienced additional fault trips which have been identified as being caused by a faulty re-closer on the Navopache interconnect. The re-closer has been temporarily by-passed, and the plant has resumed full power operation at its 3MW nominal rating.

3. The APS 3 MW pilot biomass gasification power plant project planned for a site in Snowflake continued the balance of plant engineering, and was still waiting for the Air Permit to be issued. All the major components have been fabricated and everything but the gasifier has been delivered to the Cholla power plant until the foundations have been poured at the Snowflake site.

4. A memorandum of understanding between APS and the City of Mesa was signed for the methane being generated at the 91st Avenue wastewater plant. The City of Mesa will now negotiate the operating agreement with Trane to build and operate the gas clean up system.

5. The biomass co-firing of wood pellets at Cholla power plant is being analyzed by the APS Generation Engineering group with technical support from Black &Veatch Engineering.

6. The Clifton Geothermal slim-hole drilling by the APS team was delayed by weather and drill rig availability. The revised drilling plan now calls for multiple slim-holes to validate the surface geophysical analysis results.

7. The concentrated animal feeding operation (CAFO) manure-to-energy project Concept Development phase is over 90% complete. With the positive results to-date it was decided to continue with the Phase 2 Feasibility Analysis.

8. Signed a PPA with Western Wind for 15 MW; installation is proceeding.

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Plans for Second Half of 2005

1. As of June 30th, the 91st Ave. Wastewater Plant bio-gas project agreements and contracts were expected be finalized in the third quarter, followed by detailed engineering, major component procurement, and then site construction activities in late 2005/early 2006. Since June 30th, this project has been placed on hold because the City of Mesa withdrew from the project.

2. As of June 30th, the 3 MW biomass gasification project was expected to begin construction upon receipt of the Air Permit. Upon completion of the foundations, the major components will be delivered to the Snowflake site for assembly. Startup is now projected for early in the first quarter of 2006. Since June 30th, this project has been placed on hold to due to higher than expected costs.

3. The Clifton geothermal slim-hole drilling will be completed in the second half of 2005. The balance of the period will be used for analysis of the results and the development of a project plan to move to the next step as determined by the results from the multiple slim-hole wells.

4. The Concept Development Analysis of a major CAFO manure project will be finalized including an "All Stakeholder Briefing". The second phase will be funded and contracted to commence immediately after completion of Phase 1.

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6. NEW TECHNOLOGY ACTIVITIES

APS is operating and testing promising new solar and renewable energy technologies. This activity is critical to encouraging innovation and competition, in order to find new ways of reducing the costs of energy generation with solar and other renewable energy sources.

Summary of First Half of 2005

1. The new prototype Solar-Hydrogen generator system installed from SHEC Labs of Canada, has been operated on an intermittent test basis. This is the first field evaluation of this system in a high solar environment. Several parties from DOE and investors have visited the site.

2. The "Advanced Battery Management" prototype system by Simons, working with FWR of Flagstaff and with Sandia National Labs, has done well in testing. This system is designed to charge and maintain batteries more efficiently, to lower generator runtime, improve battery life, and reduce life cycle cost of PV hybrid systems. The first high power system has been installed at the STAR hybrid test building and is undergoing testing and development.

3. The advanced multi-junction CPV system from Concentrating Technologies continues in operation, noteworthy for this first utility use of use the world's highest efficiency solar technology under high concentration. Next generation parts are now being made for testing prior to initial commercial manufacturing.

4. The Amonix installation at the University of Nevada Las Vegas has continued to operate well. This is a project under contract from NREL to UNLV and Amonix with APS assistance. The system has generated interest in more CPV systems in Nevada, with utility-scale purchases now being discussed.

Plans for Second Half of 2005

1. Performance and reliability testing of new inverter products will continue.

2. Performance and reliability testing of PV modules will continue, including silicon, amorphous silicon, CdTe, and CIS technologies.

3. Performance and reliability testing of next generation of CPV systems from Amonix, and from Concentrating Technologies and Spectrolabs are planned, as precursors to commercial use.

4. Performance and reliability testing of the Advanced Battery Management systems will continue prior to considering this technology for sites such as Carol Spring Mountain and Gray Wolf Landfill.

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7. EPS CREDIT PURCHASES

APS is meeting the EPS requirements partially through purchases of qualifying EPS credits from outside providers. Contractual arrangements for acquiring such EPS credits are made when appropriate. APS provides grid-tied customers with $4.00 per watt-dc (up to 50% of the system cost) to purchase the renewable credits from their solar system. For remote, off-grid systems, APS provides customers with $2.00 per watt-dc for the renewable credits from their installation of a complete, professionally installed system. For solar water heating systems, APS provides customers with $700 per installation for the right to use the credits for the EPS program.

Summary of the First Half of 2005

1. APS purchased a total 1,242,804 solar-electric kWh credits from APS customer installations.

2. The EPS kWh-credit purchase program for customer-purchased grid-tied PV systems resulted in 11 additional APS customers for the half year with grid-tied systems totaling 39.43 kW representing EPS funding of $138,420. In addition, there were 54 system reservations totaling 410 kW by the end of June end representing funding reservations of $1,307,679 as of June 30. There were also 27 customers with off-grid systems totaling 37.8 kW representing EPS funding of $75,470.

3. There were 52 solar water heating credit applications by the end of June representing $36,400 of EPS funding, an equivalent of 117,430 kWh in annual energy savings.

4. Submitted Application for Approval of the APS EPS Credit Purchase Program to the ACC on May 25, 2005.

Plans for the Second Half of 2005

1. Continue the customer credit purchase program at a price of $4 per watt-dc for grid-tied systems.

2. Continue with the customer credit purchase program at a price of $2 per watt-dc for off-grid systems and $700 per installation for solar water heating systems.

3. Negotiate purchases of EPS credits where appropriate.